

## **CHEMICAL MODIFICATION**

### **ABSTRACT OF THE DISCLOSURE**

The invention provides an isolated polypeptide, or a fragment thereof, comprising a coiled-coil and an engineered site sufficient for the addition of a “moiety”, i.e., a group, that is one or more of a phosphate, ubiquitin, glycosyl or ADP-ribosyl moiety, wherein the polypeptide binds to a binding partner in a phosphorylation-, ubiquitination-, glycosylation- or ADP-ribosylation-dependent manner. The invention also relates to methods and kits utilizing an isolated polypeptide and its binding partner, which methods and kits permit monitoring of addition or removal of the one or more moieties.